REMARKS

Reconsideration and allowance of the subject application are respectfully requested. By this Amendment, Applicant has added new claims 15 and 16. Thus, claims 1-16 are now pending in the application with claim 10 being allowed. In response to the Office Action (Paper No. 8), Applicant respectfully submits that the pending claims define patentable subject matter.

Claims 1-9 and 11 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Broer et al. (U.S. Patent No. 5,808,713; hereafter "Broer") in view of Ciupke et al. (U.S. Patent No. 5,461,547; hereafter "Ciupke") and Masuda et al. (U.S. Patent No. 6,340,999; hereafter "Masuda"). Claims 12-14 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Broer in view of Ciupke, Masuda and Koretoshi (JP 11-142618). Applicant respectfully traverses the prior art rejections.

With regard to independent claim 1, the Examiner maintains that Broer discloses all of the features of independent claim 1 except for "a refractive index difference of the optical path changing sheet and a nearest LCD substrate as well as a refractive index difference of an adhesive layer ... and the nearest LCD nor angles of the prismatic structure", which the Examiner asserts are disclosed by Ciupke and Masuda.

In the Amendment filed June 27, 2003, Applicant argued the claimed invention would not have been rendered obvious in view of the combined references because one ordinary skill in the would not have been motivated to modify the combined references to produce the claimed invention. In particular, Masuda (as well as Ciupke) discloses a liquid crystal display apparatus structure where the light guide is separated from the LCD device such that light emitted from the

light source disposed on the side of the light guide is transmitted through the whole range of the light guide and emitted toward the LCD device. Therefore, if the light guide is brought contact with the LCD device (as required by the claimed invention), the light emitted from the light source is partially and directly leaked to the LCD device which results in a loss of utilization of light used for the display of the image. However, the Examiner did not respond to Applicant's argument in this regard.

Nonetheless, Applicant has amended independent claim 1 to recite "said optical path changing sheet has continuous first optical path changing slopes, second optical path changing slopes and flat surfaces, ... [and], each of said second optical path changing slopes faces away from said illuminator at an inclination angle with respect to a plane of said optical path changing sheet which is greater than said inclination angle of said first optical path changing slopes". See Figures 4B and 4D.

Applicant has added new independent claim 15 corresponding to the subject matter illustrated in Figures 4C and 4E, for example. Claim 15 recites in part:

> said optical path changing sheet has a plurality of continuous and adjacent, first and second optical path changing slopes, each of said first optical path changing slopes faces said illuminator at an inclination angle in a range of from 30 to 48 degrees with respect to a plane of said optical path changing sheet for reflecting incident light from said illuminator toward said visual side of said liquid-crystal display panel, each of said second optical path changing slopes faces away from said illuminator at an inclination angle of not larger than 10 degrees with respect to said sheet plane so that a projected area of said second optical path changing slopes on said sheet plane is not smaller than 10 times as

large as a projected area of said first optical path changing slopes on said sheet plane.

Applicant has also added new independent claim 16 corresponding to the subject matter illustrated in Figure 4G, for example. Claim 16 recites in part:

> said optical path changing sheet has a plurality of optical path changing means having a concave shape formed by first and second optical path changing slopes and flat surfaces interposed between said first and second optical path changing slopes, each of said first optical path changing slopes faces said illuminator at an inclination angle in a range of from 30 to 48 degrees with respect to a plane of said optical path changing sheet for reflecting incident light from said illuminator toward said visual side of said liquid-crystal display panel, each of said second optical path changing slopes faces away from said illuminator, and each of said flat surfaces is inclined at an inclination angle of not larger than 10 degrees with respect to said sheet plane.

Support for the amendments to claim 1 and new claims 15 and 16 can be found in the specification at pages 20-26, for example.

With regard to Ciupke (which the Examiner cites for teaching the structure of the claimed structure of the optical path changing sheet, the Examiner asserts that Ciupke discloses an optical path changing sheet having optical path changing slopes facing an illuminator at an inclination of 35-45 degrees, and flat surfaces inclined at an inclination angle of not smaller than 10 degrees so that a projected area of the flat surfaces is not smaller than 10 times as large as a projected area of the optical path changing slopes. However, Applicant respectfully disagrees with the Examiner's interpretation of Ciupke. In particular, although Ciupke (Figures 2 and 3) discloses a light guide 11 having facets 16 (isosceles triangles) with slopes/sides which are inclined at equal

angles of 35 to 45 degrees with respect to a plane of the light guide, the flat portions are not "inclined at an inclination angle" but instead are parallel to the plane of the light guide.

Broer (Figure 2) discloses a reflective polarizer 31 having reflective facets 34 with a first side inclined an angle Θ with respect to a plane of the polarizer and a second side with is perpendicular to the plane of the polarizer. However, Broer does not specify the value(s) of angle Θ.

Masuda (Figure 1) discloses a light guide having continuous and adjacent concave/convex portions 3f which include a first and second slopes (propagation portion 3d and reflection portion 3e), wherein a "stripe" of each concave/convex portion 3f makes an angle of 23 degrees with respect to a plane of the display device (i.e., a plane of the surface of the light guide is inclined at angle of 23 degrees). Further, Masuda (Figure 16) discloses a light 83 having periodic concave/convex portions which include first and second slopes which are inclined with respect to the plane of the display device and flat surfaces interposed between the first and second slopes which are parallel (not inclined) with to the plane of the display device.

However, Applicant respectfully submits that none of the cited references disclose an optical path changing sheet having optical path changing slopes and flat surfaces as recited in claims 1, 15 and 16 (i.e., such as illustrated in Figures 4B-4E and 4G). Accordingly, Applicant respectfully submits that independent claims 1, 15 and 16, as well as dependent claims 2-9 and 11-14, should be allowable because the cited references, alone or combined, do not teach or suggest all of the features of the claims.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

Christopher R. Lipp
Registration No. 41,157

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE
23373
CUSTOMER NUMBER

Date: January 12, 2004